

## NOTES ON THE CHROMOSOME NUMBER OF *GAULTHERIA PROCUMBENS* L. (ERICACEAE)

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*Gaultheria procumbens* L., has at least two chromosome numbers different from the single one previously reported by Newcomer (1941) of  $n = 12$  from plants collected at an unspecified locality in either North Carolina or Tennessee. The present report is of three North Carolina populations, one from the Piedmont Province in Durham County (tetraploid with  $n = 22$ ), one from the Blue Ridge Province in Macon County ( $n = 22$ ), and one from the Blue Ridge Province in Burke County (octoploid with  $n = 44$ ). Clear meiotic counts were obtained from pollen mother cells at late anaphase II of the Piedmont population; the tetraploid count from Macon County was made at metaphase I; and counts of  $n = 44$  from the Burke County population were made at late prophase I as well as counts of  $n = \text{ca. } 44$  at late anaphase I and II.

Specific collection data for the North Carolina populations are as follows: **Burke Co.:** with *Galax* in heath at the summit of Tablerock Mountain, ca. 16 mi NW of Morganton, Blue Ridge Province; *G. Nesom* & *D. Wickland s.n.*,  $n = 44$ . **Durham Co.:** North-facing slope on tributary of Little River, just NE of Co. Rd. 1628, ca. 9 mi N of Durham, Piedmont Province; *J. Moore* & *P. Olwell s.n.*,  $n = 22$ . **Macon Co.:** edge of rock in chestnut oak-heath community, near Sunset Rock, Highlands, Blue Ridge Province; *A. E. Radford s.n.*,  $n = 22$ . Vouchers from all three populations have been deposited in NCU.

Three base numbers ( $x = 11, 12, 13$ ) are known in this large genus, though only twelve species have as yet been cytologically investigated; ten of these have  $x = 11$ . Most are diploid, but besides *Gaultheria procumbens*, two other species from widely separate geographic areas are known to have tetraploid populations with respect to  $x = 11$  (Callan, 1941). A single species, *G. Itoana* Hay of Formosa, is known to have a base number of 13 ( $2n = 26$ , Callan, 1941). The three species reported to have a base number of 12 are all from North America. *Gaultheria hispidula* (L.) Muhl. var. *hispidula* is diploid with  $2n = 24$  (Löve & Löve, 1966); the other two, *G. Shallon* Pursh from along the Pacific coast and *G. procumbens*, are



both apparently dibasic with  $x = 11$  and  $12$ . *Gaultheria Shallon* is reported as an octoploid with respect to both base numbers ( $2n = 88$ , Callan, 1941;  $2n = 96$ , Hagerup, 1928).

It is interesting to note that although these three North American species have a variant base chromosome number in common, Airy-Shaw (1940) placed *Gaultheria Shallon* in sect. *Brossaeopsis* Airy-Shaw and the other two in different subsections of sect. *Gaultheria* (sect. *Eugaultheria* Airy-Shaw). In his treatment *G. procumbens* was discussed as "morphologically one of the most isolated species known." This species seems to be morphologically rather uniform throughout its range, though several striking but local variants have been noted in the northeastern United States (e.g., MacKeever, 1961; Fernald & Hodgdon, 1934). The strong probability that both aneuploidy and autopolyploidy exist within the species and within the area of the southern Appalachians offers an intriguing study.

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